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09/831,331	01/24/2002	Alan Coull	11033-064001	11033-064001 3208	
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Fish & Richardson 225 Franklin Street Boston, MA 02110-2804			EXAMINER		
			HINZE, LEO T		
			ART UNIT	PAPER NUMBER	
			2854		
			DATE MAILED: 03/18/2003		

Please find below and/or attached an Office communication concerning this application or proceeding.

•		Application No.		Applicant(s)				
Office Action Summary		09/831,331		COULL, ALAN	19/			
		Examiner		Art Unit				
	-	Leo T. Hinze		2854				
	The MAILING DATE of this communication app	1	sheet with the c	orrespondence ad	dress			
Period fo								
THE N - Exter - after - If the - If NO - Failui	ORTENED STATUTORY PERIOD FOR REPLY MAILING DATE OF THIS COMMUNICATION. Issions of time may be available under the provisions of 37 CFR 1.1: SIX (6) MONTHS from the mailing date of this communication. period for reply specified above is less than thirty (30) days, a reply period for reply is specified above, the maximum statutory period re to reply within the set or extended period for reply will, by statute eply received by the Office later than three months after the mailing of patent term adjustment. See 37 CFR 1.704(b).	36(a). In no event, howe y within the statutory mir vill apply and will expire cause the application to	ever, may a reply be tin imum of thirty (30) day SIX (6) MONTHS from b become ABANDONE	nely filed s will be considered timel the mailing date of this o D (35 U.S.C. § 133).	y. · ommunication.			
1)⊠	Responsive to communication(s) filed on 24	lanuary 2002 .		•				
2a)	This action is FINAL . 2b)⊠ Th	is action is non-fi	nal.					
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.								
•	on of Claims	u						
	Claim(s) <u>1-13,16,17 and 19</u> is/are pending in the control of the above claim(s) is/are withdraw		ation					
	4a) Of the above claim(s) is/are withdra	WIT HOTH CONSIDER	ation.					
	Claim(s) is/are allowed.							
	Claim(s) <u>1-13,16,17 and 19</u> is/are rejected. Claim(s) is/are objected to.							
,		r election require	ment.		`			
,	ion Papers							
9)	The specification is objected to by the Examine	er.			•			
10)🛛	The drawing(s) filed on 24 October 2002 is/are	a) ☐ accepted or	b)⊠ objected to	by the Examiner.				
	Applicant may not request that any objection to the							
11) 🔲	The proposed drawing correction filed on			oved by the Examir	ner.			
If approved, corrected drawings are required in reply to this Office action.								
.—	The oath or declaration is objected to by the Ex	caminer.						
	under 35 U.S.C. §§ 119 and 120			·				
,	Acknowledgment is made of a claim for foreig	n priority under 3	5 U.S.C. § 119(a	a)-(d) or (t).				
a)	☑ All b)☐ Some * c)☐ None of:							
	1. Certified copies of the priority document							
	2. Certified copies of the priority documen							
* (3. Copies of the certified copies of the price application from the International Bussee the attached detailed Office action for a list	reau (PCT Rule	17.2(a)).		l Stage			
	Acknowledgment is made of a claim for domest				al application).			
a	a) The translation of the foreign language process Acknowledgment is made of a claim for domes	ovisional applicat	ion has been re	ceived.				
Attachmer								
2) Notice	ce of References Cited (PTO-892) ce of Draftsperson's Patent Drawing Review (PTO-948) mation Disclosure Statement(s) (PTO-1449) Paper No(s)	4)		ry (PTO-413) Paper N Patent Application (P				

Application/Control Number: 09/831,331

Art Unit: 2854

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because

reference character "35" has been used to designate both a belt and a traveling lead.

A proposed drawing correction or corrected drawings are required in reply to the Office

action to avoid abandonment of the application. The objection to the drawings will not be held

in abeyance.

Claim Objections

2. Claims 4, 6, 9, and 17 are objected to because of the following informalities:

Regarding claim 4, it appears that --are-- is missing from between "set" in line 1 and

"positioned" in line 2.

Regarding claim 6, the claim recites the limitation "the carriage" in line 2. There is

insufficient antecedent basis for this limitation in the claim.

Regarding claim 9, it appears that "be" in line 3 should be replaced with --being--.

Regarding claim 17, it appears that there is a word or words missing from between

"moved" and "the" in line 2.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

Page 2

Application/Control Number: 09/831,331 Page 3

Art Unit: 2854

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 16, 17, and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 16, the claim is ambiguous and indefinite as it positively recites both an apparatus and the method steps of using the apparatus.

Regarding claim 17, no independent claim is specified in dependent claim 17. It appears that claim 17 should be dependent on claim 16.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
- 6. Claims 1-5, 7, 11, 16, 17, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Kano (171).

Regarding claim 1, Kano teaches a method of printing information on each article (14) of a set of articles arranged in generally parallel lanes (e.g. Fig. 5), at a printing station, the method

Application/Control Number: 09/831,331

Art Unit: 2854

including continuously moving a printing apparatus (8) relative to the lanes to bring the printing apparatus into registry with each article of the set in turn, and at each registry position, whilst continuing, to move the printing apparatus, moving a print head of the apparatus relative to the respective article to a printing position in which the print head is capable of printing information on the article, continuing to move the printing apparatus relative to the article whilst effecting printing with the print head, and when the information is printed, whilst continuing to move the printing apparatus, moving the print head out of the printing position (e.g. col. 6, lines 34-45).

Applicant should note that since no specific movement or means for movement of print heads relative to printing apparatus is claimed, and since the print heads of Kano are fixed to the movable printing apparatus, that the print heads are inherently moved into and out of printing positions by the movement of the printing apparatus.

Regarding claim 2, Kano teaches all that is claimed in the above rejection of claim 1. Additionally, Kano teaches wherein the printing apparatus is mounted on a carriage (15) and the method includes continuously moving the carriage transversely (e.g. col. 6, line 27) across the lanes, relative to a base structure relative to which each of the articles (14) of the set is held stationary during printing.

Regarding claim 3, Kano teaches all that is claimed in the above rejection of claim 1.

Additionally, Kano teaches wherein the carriage is moved transversely of the lanes at a generally constant speed.

Regarding claim 4, Kano teaches all that is claimed in the above rejection of claim 1.

Additionally, Kano teaches wherein all of the articles (14) of the set (9) positioned at the printing

Application/Control Number: 09/831,331

Art Unit: 2854

station simultaneously whilst the printing apparatus is moved transversely across all the lanes (e.g. col. 5, lines 45-48).

Regarding claim 5, Kano teaches all that is claimed in the above rejection of claim 1. Additionally, Kano teaches wherein the articles are conveyed severally (transport unit 10, container vessel 9) in their respective lanes, to the printing station, and are arranged to be present at the printing station so that the printing apparatus may be moved into registry with the articles and printing performed, whilst the printing apparatus is continuously moved.

Regarding claim 7, Kano teaches all that is claimed in the above rejection of claim 1. Additionally, Kano teaches wherein the print head is of the kind having a plurality of printing elements ("nozzles provided in the head unit", 16) which are selectively actuated during printing by a control means (62) to effect printing of desired information on each of the articles.

Regarding claim 11, Kano teaches all that is claimed in the above rejection of claim 1. Additionally, Kano teaches conveying the articles of the set in their parallel lanes to the printing station, arresting movement of the set of articles at the printing station while the information is printed on each of the articles of the set (e.g. col. 8, lines 63-64).

Regarding claim 16, Kano teaches all that is claimed in the above rejection of claim 1. Additionally, Kano teaches a printing station for performing the method of claim 1, the printing station including a carriage (8), a printing apparatus (8) mounted on the carriage, the carriage being moveable to move the printing apparatus transversely of a plurality of lanes whilst the printing apparatus effects printing on each of a plurality of articles (14) at the printing station, each of the articles being located in one of the lanes, the carriage being moveable substantially

Application/Control Number: 09/831,331

Art Unit: 2854

continuously across the lanes whilst the printing apparatus prints the information on each of the articles of the set in turn without or substantially without stopping (e.g. col. 6, lines 34-45).

Regarding claim 17, Kano teaches all that is claimed in the above rejection of claim 16. Additionally, Kano teaches wherein the carriage is mounted on a gantry (15) which extends over the lanes and the printing apparatus is moved the lanes on the carriage.

Regarding claim 19, Kano teaches all that is claimed in the above rejection of claim 16.

Additionally, Kano teaches wherein movement of the carriage is controlled by a controller (62) which co-ordinates printing with carriage movement.

Claim Rejections - 35 USC § 103

- 7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 8. Claims 1, 6, 8-10, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Look in view of Kano ('171).

Look teaches:

• a method of printing information on a article (46), at a printing station, the method including continuously moving a printing apparatus (50) relative to the article to bring the printing apparatus into registry with the article whilst continuing to move the printing

Application/Control Number: 09/831,331

Art Unit: 2854

apparatus, moving a print head (44) of the apparatus relative to the respective article to a printing position in which the print head is capable of printing information on the article, continuing to move the printing apparatus relative to the article whilst effecting printing with the print head, and when the information is printed, whilst continuing to move the printing apparatus, moving the print head out of the printing position (e.g. col. 7, lines 9-21) (claim 1);

- wherein the printing apparatus includes a housing (52) mounted on the carriage, and print head movement to and from the printing position is relative to the housing of the printing apparatus (e.g. col. 5, lines 16-17, Fig. 4) (claim 6);
- wherein the printing apparatus is a thermal printer (50) in which there are printing elements (44; "additional printer heads", col. 8, lines 20-21) arranged in a generally linear array along the print head with the array extending generally transversely to the direction of movement of the printing apparatus across the lanes (e.g. Fig. 3), the method including selectively energizing the printing elements (e.g. col. 7, line 11) during printing to remove pixels of marking medium from a carrier (66) positioned between the printing elements and the article (claim 8);
- wherein the method includes moving the carrier relative to the print head as the printing apparatus moves transversely of the lanes of articles during printing, so as that fresh carrier is continually be positioned between the print head and the article on which information is being printed (e.g. col. 5, lines 5-18) (claim 9);

Application/Control Number: 09/831,331

Art Unit: 2854

• wherein the printing apparatus includes a housing (52) within which there is provided a storage spool (62) for unused carrier, a take-up spool (64) for used carrier, a first motive

means ("powered ribbon take-up reel" 64) to move at least the take-up spool to take up

used carrier, and a second motive means (58) to move the print head to and from the

printing position (claim 10);

• a method of printing information on a article (46), at a printing station, the method

including continuously moving, a printing apparatus (50) relative to the article to bring

the printing apparatus into registry with the article, the printing apparatus including a

print head (44), and a carrier (66) for marking medium which is applied to the articles

during printing, and at each registry position, whilst continuing to move the printing

apparatus, effecting printing with the print head, and when the information is printed,

continuing to move the printing apparatus to the next registry position (e.g. col. 7, lines 9-

21) (claim 12);

• wherein the method is applied to printing apparatus having a thermal print head (50)

having printing elements (44; "additional printer heads", col. 8, lines 20-21) which are

selectively energized (e.g. col. 7, line 11) during printing to melt and remove pixels of

marking medium from the carrier (66) and deposit the pixels of ink on to the articles

(claim 13).

Look does not teach:

• a method of printing information on each article of a set of articles arranged in

generally parallel lanes, the method including continuously moving a printing apparatus

Application/Control Number: 09/831,331

Art Unit: 2854

relative to the lanes to bring the printing apparatus into registry with each article of the set in turn (claim 1);

• a method of printing information on each article of a set of articles arranged in generally parallel lanes, the method including continuously moving, a printing apparatus relative to the lanes to bring the printing apparatus into registry with each article of the set in turn (claim 12).

Kano teaches:

- a method of printing information on each article (14) of a set of articles arranged in generally parallel lanes (e.g. Fig. 5), the method including continuously moving a printing apparatus relative to the lanes to bring the printing apparatus into registry with each article of the set in turn (claim 1);
- a method of printing information on each article (14) of a set of articles arranged in generally parallel lanes (e.g. Fig. 5), the method including continuously moving, a printing apparatus relative to the lanes to bring the printing apparatus into registry with each article of the set in turn (claim 12).

Regarding claims 1 and 12, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Look to print on a set of articles arranged in generally parallel lines, because Kano teaches that this is advantageous for significantly improving productivity.

Regarding claims 6, 8, 9, 10, and 13, the combination of Look and Kano teaches all that is claimed as discussed above.

Application/Control Number: 09/831,331

Art Unit: 2854

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leo T. Hinze whose telephone number is (703) 305-3339. The examiner can normally be reached on M-F 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (703) 305-6619. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0952.

Les 7. Hung

Leo T. Hinze Patent Examiner AU 2854 March 13, 2003 PRIMARY EXAMINER